### **Strings Assignments:**

### **Beginner Level:**

1. **Reverse of a number using toString, split, reverse, and join methods.**
2. **Find the number of digits of a given number using toString() and the length property.**
3. **Write a program to convert all characters in a string to uppercase and print the modified string.**
4. **Write a program to print the number of characters in a string.**  
   Example: Input: 'Hello' → Output: 5
5. **Remove all spaces from a given string.**
6. **Remove single spaces from a given sentence.**
7. **Write a program to search for a string in a sentence (case insensitive).**
8. **Write a program to convert a sample sentence string into an array of words.**  
   Example: Input: 'Hello World' → Output: ['Hello', 'World']

### **Intermediate Level:**

1. **Print the number of words in a given string.**
2. **Write a program to eliminate all numeric characters from a string.**  
   Example: Input: 'Q1STR5684A' → Output: 'QSTRAK'
3. **Write a program to print only numeric characters from a string.**  
   Example: Input: 'Q1STR5684AK' → Output: '15684'
4. **Check if a given string is a valid Gmail ID.**
5. **Write a program to count all alphabets in a given string (not words).**
6. **Write a program to sort the characters of a given string alphabetically.**  
   Example: Input: 'praveen' → Output: 'aeenprv'
7. **Eliminate duplicate characters in a given string.**  
   Example: Input: 'praveengubbala' → Output: 'pravengubl'
8. **Write a program to print all words in a string in alphabetical order.**
9. **Write a program to print unique words and count repetitions in a string.**

### **Advanced Level:**

1. **Write a program to replace all vowels in a string with 8.**  
   Example: Input: 'This is awesome' → Output: 'Th8s 8s 8w8s8m8'
2. **Write a program to take a 16-digit credit card number and replace the first 12 digits with X.**  
   Example: Input: '9765143265387960' → Output: 'XXXXXXXXXXXX7960'
3. **Write a program to hide the middle six digits of a phone number.**  
   Example: Input: '9876543210' → Output: '98XXXXXX10'
4. **Append the Indian calling code +91 to a given phone number.**  
   Example: Input: '9876543210' → Output: '+919876543210'
5. **Check if a number is a valid phone number.**  
   Criteria:
   * Must be 10 digits.
   * Must not contain letters.
6. **Check if a number is a valid credit card number.**  
   Criteria:
   * Must be 16 digits.
   * Must not contain letters.
7. **Write a program to add hyphens (-) between groups of 4 digits in a credit card number.**  
   Example: Input: '6484638463487486' → Output: '6484-6384-6348-7486'

**Array of Strings Processing Assignments with for loop**

Here are **JavaScript assignment questions** using **for loops** with an **array of strings**:

const fruits = ["Apple", "Banana", "Cherry", "Mango", "Orange", "Grapes"];

**Basic Level**

1. Use a for loop to print each fruit in the fruits array.
2. Use a for loop to print the index and value of each fruit.
3. Use a for loop to count how many fruits are in the array.
4. Use a for loop to find and print the longest fruit name.
5. Use a for loop to print only fruits that contain the letter "a".

**Intermediate Level**

1. Use a for loop to reverse each fruit name (e.g., "Apple" → "elppA").
2. Use a for loop to create a **new array** containing fruit names in uppercase.
3. Use a for loop to add "Delicious " before each fruit name (e.g., "Delicious Apple").
4. Use a for loop to find how many fruits have more than 5 letters.
5. Use a for loop to remove all fruits that contain the letter "o".

**Advanced Level**

1. Use a for loop to count how many times each letter appears in all fruit names.
2. Use a for loop to shuffle the elements of the array randomly.
3. Use a for loop to check if all fruits have more than 3 letters.
4. Use a for loop to swap the first and last element of the array.
5. Use a for loop to create an object where each fruit is a key and its length is the value.

Assignment 3:

You're very welcome! Here are **50+ JavaScript assignments** that specifically use for loops with the **animals** array.

### **Array of Strings**

const animals = [

"Lion", "Tiger", "Elephant", "Giraffe", "Monkey", "Zebra",

"Kangaroo", "Panda", "Leopard", "Cheetah", "Rhinoceros",

"Hippopotamus", "Wolf", "Fox", "Deer", "Rabbit", "Squirrel",

"Crocodile", "Alligator", "Ostrich", "Peacock", "Eagle",

"Falcon", "Penguin", "Dolphin", "Shark", "Whale", "Octopus",

"Jellyfish", "Starfish"

];

## **Basic Level (1-20)**

1. Use a for loop to print each animal name.
2. Use a for loop to print each animal name along with its index.
3. Use a for loop to print only the first **5** animals.
4. Use a for loop to print the array in reverse order.
5. Use a for loop to count how many animals are in the array.
6. Use a for loop to find and print the longest animal name.
7. Use a for loop to print all animals that contain the letter "o".
8. Use a for loop to remove "Tiger" from the array.
9. Use a for loop to count how many animals start with "L".
10. Use a for loop to print all animals that have an even number of letters.
11. Use a for loop to swap the first and last animals.
12. Use a for loop to print the animal names in uppercase.
13. Use a for loop to find the shortest animal name.
14. Use a for loop to print only animals with exactly **6 letters**.
15. Use a for loop to count how many animals contain the letter "e".
16. Use a for loop to remove duplicates from the array.
17. Use a for loop to print only animals that **start and end with the same letter**.
18. Use a for loop to reverse each animal name (e.g., "Lion" → "noiL").
19. Use a for loop to create an array of **animals in lowercase**.
20. Use a for loop to check if "Penguin" exists in the array.

## **Intermediate Level (21-40)**

1. Use a for loop to create a new array with "Animal: " added before each name.
2. Use a for loop to create an array of animals sorted by length.
3. Use a for loop to count how many animals have at least **two vowels**.
4. Use a for loop to create an object where keys are animals and values are their length.
5. Use a for loop to create an array containing only animals with **more than 5 letters**.
6. Use a for loop to replace "Elephant" with "Buffalo".
7. Use a for loop to print only animals where the second letter is "o".
8. Use a for loop to find the most frequent letter in all animal names.
9. Use a for loop to create an array of **only unique letters** used in animal names.
10. Use a for loop to create a **string** where each animal is separated by " | ".
11. Use a for loop to create an object with the **first letter as key** and animals as values.
12. Use a for loop to count how many animals contain the letter "a" but **not** "o".
13. Use a for loop to move all animals that start with "C" to a new array.
14. Use a for loop to find the animal with the most **consecutive repeated letters**.
15. Use a for loop to create a **nested array** where each subarray contains two animals.
16. Use a for loop to print the total number of characters in all names.
17. Use a for loop to print animals in pairs (e.g., "Lion & Tiger", "Elephant & Giraffe").
18. Use a for loop to create an array where each animal is followed by its index.
19. Use a for loop to remove all animals that contain the letter "i".
20. Use a for loop to reverse the order of the first 10 elements.

## **Advanced Level (41-60)**

1. Use a for loop to randomly shuffle the elements in the array.
2. Use a for loop to find all animals that contain at least **three vowels**.
3. Use a for loop to split each animal name into an array of characters.
4. Use a for loop to replace all vowels in animal names with "\*".
5. Use a for loop to find all animals whose names are **palindromes**.
6. Use a for loop to create a function that removes an animal by its name.
7. Use a for loop to create an array where each animal has **its length appended**.
8. Use a for loop to create an array where each animal is listed **twice**.
9. Use a for loop to find the most common starting letter in all animal names.
10. Use a for loop to create a **lookup object** where each animal's index is its value.
11. Use a for loop to create an object where the **last letter** is the key.
12. Use a for loop to count how many animals contain the letter "p".
13. Use a for loop to print animals sorted by their **last letter**.
14. Use a for loop to find the longest **common prefix** among all names.
15. Use a for loop to create an array where the **first letter of each animal is capitalized**.
16. Use a for loop to create an array of animals grouped by **odd or even length**.
17. Use a for loop to count how many animals have **more consonants than vowels**.
18. Use a for loop to check if all animal names have at least **one vowel**.
19. Use a for loop to print every **third** animal in the list.
20. Use a for loop to create a **fighting game**, where two random animals "battle" each other.

### **Bonus Challenge (For Fun!) 🎉**

💡 **Write a for loop that generates a random sentence using the animals!** Example:  
🔹 "The Lion and the Tiger went on an adventure with the Dolphin!"

Would you like **hints** or **solutions** for any of these? 😊